

endured from sand-flies, centipedes and mosquitoes on certain islands, and from monstrous cockroaches on board the vessels in which they made some local trips.
R. L.

NOTES.

THE close attention which the Emperor of Germany gives to scientific and technical subjects, and the personal interest he takes in the work of men who study them, have been shown on many occasions. The latest instance occurred on Monday, when, attended by a large naval staff, he was present at the annual general meeting of the Society of Naval Architects, founded three years ago on the plan of our own Institution of Naval Architects. The *Times* correspondent at Berlin states that the chief item in the programme was a lecture by Geheimrath Brinkmann on the changes which have been adopted in the disposition of guns in battleships and the results of these changes upon naval architecture. The lecturer pointed out the reasons which had caused the arrangement of the guns with the sole object of firing broadsides to be superseded. He spoke of the beginnings of independent systems of construction in Italy, in the United States and, to a certain extent, in Germany. In the course of the discussion reference was made to the advantage which Germany enjoyed in having the opportunity of constructing an entirely new navy while profiting by the experience of older naval powers, and it was pointed out that, as regards materials, German steel was excelled by none. To the surprise of the audience, the Emperor ascended the platform, and after beckoning all who were present to remain seated, spoke upon the subject of the influences of military requirements upon the development of naval construction and the disposition of artillery on ships. The presence of the Emperor at scientific and technical meetings is itself a mark of sympathy with their aims; and when, in addition, he shows himself keenly interested in the subjects discussed, the influence upon the public mind must be very great. To this influence must partly be ascribed the regard in which scientific investigation is held in Germany.

CONSIDERABLE interest attaches to a circular said to have been issued by the Italian War Office to the veterinary surgeons of the Italian Army. The circular recommends to their attention a new treatment for the so-called foot and mouth disease of cattle. The treatment was announced some little time ago by Prof. Bacelli, and consists in the intravenous injection of a solution of perchloride of mercury and sodium chloride. The intravenous injection of powerful antiseptics for specific diseases is, of course, not new. Quite recently intravenous injections of formic aldehyde were used, apparently with success, in the treatment of human pulmonary tuberculosis. We have not, up to the present, had access to the actual communication either of Prof. Bacelli or of Dr. Guzzi, who appears to have been the first to actually use the remedy in question; but it appears that the injected fluid consisted of 1 gramme of perchloride of mercury, 75 grammes of sodium chloride and 1 litre of water, and that of this solution first 30, then 50, then 70, and subsequently 100 cubic centimetres were injected. As the body-weight of the animals in question is unknown, an accurate estimation of the dose given is impossible. The ultimate remedial agent is the albuminate of mercury. The addition to the injecting fluid of the sodium chloride renders this substance more soluble, and also tends to prevent the precipitation of proteids by the perchloride, and hence the formation of emboli. The animals treated all appear to have been cured of the disease. From the general standpoint, these results, if accurate, are of interest in that they afford another instance of the possibility, by the intravenous injection of an antiseptic, of destroying, or at any rate influencing, the materies morbi without injuring the host.

A CORRESPONDENT informs us that the tercentenary of Tycho Brahe's death was celebrated in Basle, Switzerland, where Tycho settled for a time and revived interest in astronomical science. The Society of Naturalists of Basle met, with several other scientific societies, on October 23 in the Bernoullianum to listen to a lecture by Prof. Fritz Burckhardt on Tycho in Switzerland. A facsimile was shown of the letter, the original of which is preserved in the university library of Basle, with which Baron Hoffmann introduced Kepler to Tycho.

MR. A. J. EVANS, F.R.S., keeper of the Ashmolean Museum at Oxford, has been elected a corresponding member of the Munich Academy of Sciences.

WE learn from the *British Medical Journal* that on January 1, 1902, the Imperial Leopold Caroline Academy of Sciences, which has its headquarters at Halle, will celebrate the one hundred and fiftieth anniversary of its foundation. The Academy is the oldest scientific society in Germany.

THE seventh annual conference of hop growers will be held at the South-Eastern Agricultural College, Wye, on Wednesday, November 27. Colonel A. M. Brookfield, M.P., will preside, and reports will be presented on experiments conducted during 1901 on the manuring, drying, training and cultivation of hops.

THE adoption of the metric or decimal system of coinage, weights and measures in South Africa was advocated by Mr. Hutchins in a paper read before the South African Philosophical Society on October 2. It was shown that with very slight modifications the present coins and measures could be adapted to the decimal system. At the close of the meeting it was decided that a committee, consisting of Sir David Gill, Dr. Muir, Dr. Beattie, Prof. Thomson, Dr. Crawford, Mr. Littlewood and Mr. Hutchins (with power to add to their number), should prepare a report on the advisability of introducing or legalising the metric system of weights, measures and coinage in South Africa.

MR. J. STIRLING, Government Geologist and Mining Representative of Victoria, gave a lecture at the Imperial Institute on Monday on "Brown Coal-beds of Victoria, their Characters, Extent and Commercial Value." The question of utilising the large deposits of tertiary fuel known to exist in the Latrobe Valley, Gippsland, at Newport near Melbourne, Lal Lal near Ballarat, Dean's Marsh near Geelong, and at other places in Victoria, to commercial advantage in the interests of the State, is of considerable importance at the present time, when each portion of the Australian Commonwealth is taking stock of its natural resources. Geological sections run across the Latrobe Valley from north to south have disclosed the phenomenal thickness of the Morewell beds. A bore put down by the Government at Maryvale, near Morewell town, has proved 780 feet of brown-coal, in beds more than 260 feet in thickness. The chemical analyses of this fuel, taken from the bore at different levels down to 987 feet from the surface, have shown that its heat-giving qualities increase with the depth, there being from 36.75 per cent. of fixed carbon in the upper beds and 48.30 per cent. in the lower. Six hundred square miles of these tertiary brown-coal beds are known to exist in Victoria, of which 300 square miles, with 31,144,390,000 tons of the fuel, occur in the Latrobe Valley. From his intimate knowledge of these brown-coal deposits, and from the recent studies he has made on the Continent of Europe of the methods there adopted of utilising brown-coal by manufacturing it into briquettes, distilling paraffin and oils from it and producing various by-products, for all of which this class of fuel was especially adapted, Mr. Stirling has arrived at the opinion that Victoria possesses the makings of an

important national industry and that the establishment of various other industries round the centres where these brown-coal beds occur is only a question of time.

FROM a paper by Signor S. Cannizzaro in the *Atti dei Lincei* we gather that a movement is on foot in Italy for introducing the teaching of electrochemistry into the polytechnic schools of that country, and that the question has arisen as to whether this teaching should be placed in the hands of physicists or of chemists. In his paper, Signor Cannizzaro quotes the opinions of Oettel, Foerster, Lorenz, Lunge and Weber in support of the opinion that the subject falls within the domain of the chemist rather than that of the electrician.

Two somewhat closely allied papers on Röntgen rays appear in the *Journal de Physique* for November, one by M. L. Benoist and the other by M. G. Sagnac. In the former the author finds that the general laws of transparency of different kinds of matter for Röntgen rays of different kinds can be reduced to simple forms, a result which is far from being true of other previously known forms of radiation. According to these laws the transparency depends only on the absolute and atomic weights, and it appears possible, when these data are known, to calculate the transparency of any body, however complex, for rays of given quality. On the other hand, the laws may be also taken as the basis of a classification of the rays themselves, and they suggest important applications to practical radiography and chemical analysis.

A NEW extensometer has been designed by Mr. H. T. Bovey for determining the longitudinal extension or compression of any given length of a horizontal beam loaded transversely. It consists essentially of two parallel overlapping steel bars the opposite ends of which rest by knife blades against two points on the specimen to be measured. Between the faces of the two bars is a small roller carrying a mirror. Any extension or compression of the specimen causes relative motion of the bars rotating the roller through a small angle which is readily observed by means of the mirror, the reading being effected by means of an ordinary telescope with cross hairs. In Mr. Bovey's paper, which is published in the *Transactions* of the Royal Society of Canada, experiments are described showing the variations in the position of the neutral surface in wooden beams bent by different loads.

SOME ten years ago the Berlin Meteorological Institute supplied a large number of rain gauges to the various German provinces with the view of supplementing the regular observing stations and of investigating the rainfall conditions. The fourth publication of this very useful series for the provinces of Brandenburg and Pomerania has recently appeared, having been, like the previous ones, officially prepared by Prof. G. Hellmann. The tables contain the average yearly values for 269 stations, and are very clearly represented on a map, showing by various degrees of tinting the differences of rainfall of various districts for each 50 millimetres between 450 and 750 millimetres. The mean annual value for the whole area is about 24 inches. The mean daily maximum falls amount to 1.08 inch, but the absolute daily maxima reach from 2.8 to 3.6 inches, and occasionally considerably higher. Heavy falls are much more frequent in the inland districts than on the coasts, owing to the greater frequency of thunderstorms in the former localities. The longest periods of drought are about thirty days on the coast and forty days inland, and the longest wet periods from twenty-five to thirty days. These valuable discussions may well serve as patterns for such investigations; they are beautifully printed, and issued at the low price of one mark.

IN this country we do not take much note of insect pests which damage violets, but this is not the case in the United

States, where large quantities of these flowers are grown under-glass for commercial purposes. In *Bulletin* No. 27 of the Entomological Division of the U.S. Department of Agriculture, Mr. F. H. Chittenden describes a long list of insects deleterious to violets, roses and other garden plants. In the case of the violet, the worst appears to be the so-called "greenhouse leaf-tyer," which is the caterpillar of the moth *Phlyctaenia* (or, as Sir G. F. Hampson calls it, *Pioraea*) *rubigalis*, which eats away large patches from the under side of the leaves. English horticulturists are familiar with a closely allied species, *P. ferrugalis*. Various remedies are suggested for the ravages of these and other pests.

A SHORT time ago mention was made in these notes of a paper by Mr. J. J. Wilkinson on the pharynx of the "rat-tailed maggot," the larva of the fly *Eristalis*. To the last issue (vol. lxx. part 2) of the *Zeitschrift für Wiss. Zool.*, Dr. B. Wahl, of Graz, contributes an important memoir on the development of the hypodermal tissues of the imago in the same larva. In the same journal, Herr G. Rottmann publishes the first part of the results of his investigations into the development of the lingual ribbon, or radula, of the Mollusca, this part dealing with the cephalopods. Special interest attaches to his account of the growth and replacement of the teeth with which the radula is studded, the process being rendered clear by means of several figures in the text. A third article, by Dr. O. Maas, deals with the reproductive process in the sponges of the genus *Tethya*, which, as is well known, differ from all other members of the group in taking place by means of germinal buds. In another communication Dr. E. Wasmann completes his account of the parasitic flies recently discovered inhabiting the nests of white ants and named *Termitoxenia*.

THE *Monthly Review* for November contains an extremely interesting and well-illustrated article, by Mr. T. A. Cook, on the modern thoroughbred, dealing both with its history and its future prospects. From the evidence of contemporary documents, the author shows that the English horse previous to the introduction of the first strain of Arab blood must have been an animal endowed both with speed and endurance, and it was evidently one specially fitted to benefit by the cross in question, which has resulted, through a long and puzzling process, in the evolution of our present thoroughbred stock. Some attempts have been made to show that, because all the pedigrees of this stock can be traced back to Arab sires, the English thoroughbred is the product of Eastern blood alone, but this the author shows to be an untenable view. After noting the marked increase in the size of thoroughbreds since the date of the infusion of the Arab strain, Mr. Cook proceeds to inquire whether short-course two-year-old racing has had a deleterious effect on the endurance and stamina of the breed. On the whole, his conclusions with regard to this point are reassuring, and he notes with satisfaction a tendency at the present day to revert to long-distance racing. Should English thoroughbreds require fresh blood, the Arab strain at the present day would be useless, and it is considered that Australian and New Zealand sires would be most suitable for this purpose. Much stress is laid on the importance of preserving good portraits, and if possible models, of our best thoroughbreds; and it is suggested that when equestrian statues are made a well-known horse should be modelled. It is mentioned that in the statue of Charles I. at Charing Cross the charger is a model of a "great horse" from his Majesty's stables. The article concludes with some observations as to the best conventional mode of drawing running horses.

FROM Queensland we have received the Annual Progress Report of the Geological Survey for 1900, by Mr. W. H. Rands, Government Geologist, together with several detailed

reports by members of his staff. The chief attention of the Survey is appropriately given to questions of economic importance, but those of scientific interest are by no means neglected. Aid has been furnished by Mr. Robert Etheridge, jun., in the determination of a series of fossil corals from Stanwell, near Rockhampton, which prove to be of Permo-Carboniferous types. These are described and figured in *Bulletin* No. 12, together with a paper on the structure of the oolitic limestones by Mr. G. W. Card. The Etheridge and Gilbert gold-fields in north-western Queensland are reported on by Mr. Walter E. Cameron. The reefs occur near the border of a mass of granite and lie partly in that rock and partly in adjacent schists. The same geologist has given attention to the artesian water in this northern area to the south of the Gulf of Carpentaria. The water-bearing strata occur at depths which extend to as much as 3000 feet beneath sea-level, and water has been obtained at depths of 2000 feet and upwards, with a yield varying from 100,000 to one million gallons a day. Mr. Cameron also reports on recent developments in the copper-mining industry in the Cloncurry district. The ores occur in the older metamorphic series, and further systematic explorations are strongly recommended. Mr. B. Dunstan describes the anthracitic coal-deposits of the Dawson-Mackenzie region in central Queensland; in the Annual Report of the Geological Survey of Queensland he also refers to the occurrence of rhodochrome and of barklyite (the opaque ruby). Mr. J. Malcolm MacLaren deals with the geology of the Ravenswood gold-field on the borders of the Burdekin River. The rocks comprise schists and altered sandstones of unknown age, quartz-porphyrries, granites and granites. Microscopic sections of some of the rocks are illustrated. The country rock of the reefs is mainly granitic. Mr. MacLaren reports also on the tin mines of the Stannary Hills, Eureka Creek, in North Queensland. The tinstone does not occur in fissure lodes with true walls, but as an impregnation along the bedding-planes of green chloritic slaty shales. Hence he considers that the permanency of the veins may be confidently anticipated. Mr. Lionel C. Ball reports on the Red Queen and Black Diamond gold-mines near Taromeo. The district is regarded as a promising one.

"APPENDIX NO. 1—1902" of the *Kew Bulletin of Miscellaneous Information* has been issued. It consists of the usual list of seeds of hardy herbaceous annual and perennial plants and of hardy trees and shrubs, most of which have ripened in Kew during the year 1901. They are offered in exchange with Colonial, Indian, and foreign botanic gardens, as well as with regular correspondents of Kew.

THE Indian Tea Association has issued a report (published in Calcutta) on "Red Rust, a Serious Blight of the Tea-plant," by its scientific officer, Mr. Harold H. Mann. The disease is caused by an alga, *Cephaleuros mycoidea*, which attacks chiefly the leaves, one of the small number of algæ which are moribund parasites on plants. The remedy recommended is spraying with Bordeaux mixture or sulphide of potassium.

THE publication of the weekly *Botanisches Centralblatt* will cease with the close of the present year, when it will have completed its eighty-eighth quarterly volume. The chief editor, Dr. Uhlworm, has been chosen to edit a new international botanical journal, the publication of which was decided on at the recent Congress of Botanists at Geneva; subject to sufficient support being promised in the way of subscriptions.

WE learn from the *Botanical Gazette* that Dr. J. N. Rose has returned from his botanical expedition to Mexico. He has brought back a large collection of plants made chiefly in the States of Mexico, Hidalgo, Vera Cruz, and Puebla. Considerable collections were made in the high mountains, especially

about Pachucha and on Orizaba and Popocatepetl. The collection is especially rich in species of *Oxalis*, a genus which reaches a high development in Mexico.

STATISTICS issued by the Indian Department of Revenue and Agriculture show the mineral production of the Empire from 1891 to 1900. Of salt, about one million tons is annually produced; of saltpetre, about 20,000 tons. The output of coal has increased to more than six million tons. Gold has been produced to the value of about two millions sterling, mostly from Mysore. Burma and Assam have yielded 38,000,000 gallons of petroleum.

THE first number of a new periodical, entitled *Science, Arts, Nature*, has been received from Paris. The journal resembles *La Nature* in scope and typography, and the editor, M. Leon Lefevre, hopes to keep its readers in close touch with movements in science, invention and industry.

A SECOND edition of Mr. A. H. Hiorns's concise and practical manual on "Mixed Metals and Metallic Alloys" has been published by Messrs. Macmillan and Co., Ltd. The book has been completely revised and enlarged so as to include the results of the chief researches on alloys published during the last seven or eight years.

THE results of the Cambridge Anthropological Expedition to Torres Straits will be published in several volumes—probably six—dealing respectively with physical anthropology, physiology and psychology, linguistics, technology, sociology and religion. The first part, just published, belongs to the volume on physiology and psychology, and in it Dr. W. H. R. Rivers deals with vision. We propose to notice the volumes when the series has been completed.

EVIDENCE of Austria's position among leading contributors to scientific knowledge is afforded by the annual volumes published by the Vienna Academy of Sciences. The *Sitzungsberichte* for 1899 are before us, and as they occupy approximately four thousand pages it is clearly impossible to describe the contents. Many of the papers have, however, already been mentioned in these columns, and we need now only express satisfaction at the substantial testimony to scientific activity presented to us by the volumes before us.

THE supplementary list of lantern slides just issued by Messrs. Newton and Co. contains, among other scientific subjects, sets of slides of natural history subjects reproduced from photographs by Mr. Douglas English; photographs of ripples on mercury and water surfaces by Dr. J. H. Vincent; sound waves by Prof. R. W. Wood; photo-micrographs illustrating the morphology of malaria by Dr. H. R. D. Spitta; and photo-micrographs by Dr. J. Leon Williams relating to the microscopic morphology and pathology of the enamel of teeth. To be able to illustrate lectures or lessons with these photographic pictures of natural objects and phenomena should greatly facilitate instruction and create interest in scientific subjects.

NEW editions of two volumes in the well-known Text-Books of Science series have been published by Messrs. Longmans, Green and Co. One is Sir W. de W. Abney's "Treatise on Photography," which contains the essential principles of the science of photography, and should be understood by everyone who aspires to be a successful photographer, whether from a scientific or artistic point of view. The second volume is Prof. W. A. Tilden's "Introduction to the Study of Chemical Philosophy," which has been completely revised and in large part rewritten in order to present the principles of theoretical and systematic chemistry in their modern aspects. The book is one which students of chemistry read with pleasure; because it is a synopsis of the leading principles of chemistry, and profit;

because it leads them to broad and philosophic views. Both books are tenth editions, a fact which shows that they have been appreciated; and doubtless they will maintain their high reputation for some time to come.

MESSRS. BREWSTER, SMITH AND CO. have sent us a pamphlet describing an improved form of sulphuretted hydrogen apparatus. The apparatus, which has been designed by Dr. F. M. Perkin, is so arranged that either a constant supply of the sulphuretted hydrogen gas or a saturated aqueous solution can be obtained. It is well known how rapidly an aqueous solution of sulphuretted hydrogen decomposes and becomes unfit for use. The new apparatus is so arranged that the surface of the solution has always an atmosphere of the gas over it, therefore no oxidation can take place, and the solution is always saturated. The generating part of the apparatus is a slightly modified form of the apparatus first described by De Koninck, and contains a large supply of acid and of ferrous sulphide, so that when once fitted up it can be used for four or five months without being recharged. In this respect it is certainly an improvement over the "Kipp" apparatus, which requires constant recharging and wastes both of acid and sulphide.

THE additions to the Zoological Society's Gardens during the past week include a Squirrel Monkey (*Chrysotrrix sciurza*) from Guiana, presented by Captain W. A. S. Copp; two Lesser White-nosed Monkeys (*Cercopithecus petaurista*) from West Africa, presented by Mr. P. Zaffere; two Laughing Kingfishers (*Dacelo gigantea*), a Black-backed Piping Crow (*Gymnorhina tibicen*) from Australia, presented by Captain Westcott; two Alligators (*Alligator mississippiensis*) from Southern North America, presented by Mr. Percival H. Hancock; a Common Snake (*Tropidonotus natrix*), British, presented by Mr. W. Swan Sonnenschein; a Pluto Monkey (*Cercopithecus leucampyx*) from West Africa, two Marica Gazelles (*Gazella marica*) from Arabia, a Common Roe (*Capreolus capreolus albino*), European, deposited; four Lapwings (*Vanellus vulgaris*), European; fifteen American Mud Fish (*Amia calva*), twelve Long-eared Sunfish (*Lepomis auritus*), six Black Bass (*Huio nigricans*) from North America, purchased.

OUR ASTRONOMICAL COLUMN.

THE ANNULAR ECLIPSE OF THE SUN, NOVEMBER 10, 1901.—In the *Comptes rendus* (vol. cxxiii. p. 768) there is a communication from M. Janssen stating that he has received by telegram notice of the success of the expedition sent to Cairo to observe the recent annular solar eclipse. He had requested M. de la Baume Pluvinel to photograph the spectrum of the solar light grazing the moon's limb; this had been done, and the photographs showed no trace of any absorption which might suggest the presence of a lunar atmosphere. M. Pasteur had obtained large-scale photographs of the sun with granulations. The result of the expedition was therefore to be considered entirely successful.

THE LEONID METEORS, NOVEMBER, 1901.—A telegram to the daily Press through Reuter's agency announces that a considerable number of meteors have been observed in localities where the weather conditions were propitious. Advices from many stations in the United States report more or less brilliant displays of the Leonids as having been seen on Thursday and Friday nights. A steamer from New Orleans reports having seen a great shower near Cape Hatteras early on Friday morning (November 15). The only night on which the sky was at all favourable in London was Thursday, November 14, and on that occasion continual watch was kept by three observers at the Solar Physics Observatory from 11 p.m. to 4 a.m. A few meteors were seen, from twenty to thirty, but nothing in the semblance of a definite shower was presented. Many of the shooting stars seen were very brilliant, but those traced out as being Perseids or Taurids were as numerous as those decidedly radiating from the sickle of Leo, so that probably there was

nothing more than is to be seen on any good night for the same interval of time. Several photographic cameras were being exposed in different directions in the hope of recording trails, but without success. The 6-inch prismatic camera was adjusted some distance ahead of the radiant, on the star Pollux (β Geminorum), and a very bright meteor was observed to pass close to the star; but although special care was taken in development, nothing beyond the star spectrum was obtained on the plate.

STRUCTURE OF THE REGION AROUND NOVA PERSEI.—A considerable advance in the knowledge of the surroundings of Nova Persei has resulted from the examination of photographs obtained by Mr. G. W. Ritchey with the 24-inch reflector of the Yerkes Observatory. A reproduction of one of these photographs is given in the *Astrophysical Journal* (vol. xiv. pp. 167-168) in illustration of a short description of the appearances found on examining the negative. This photograph was obtained on the night of September 20, 1901, on a Cramer "Crown" plate of specially high sensitiveness, with an exposure of 3h. 50m.

The first glance at the photograph shows that the false penumbra which has been recorded with refracting telescopes is entirely absent. The image of the Nova is some 20" in diameter on account of the long exposure, but there is little or no halo of nebulosity immediately about it. Completely surrounding the star, however, is a large elliptical belt of nebulosity some 20' of arc in diameter, with patches of varying density, the most intense being on the southern half of the ring. These latter are probably identical with the four principal condensations mentioned by Prof. Perrine, the photographs of which with the Crossley reflector of the Lick Observatory show evidence of motion of these constituent portions of the nebula. As much of the finer detail is necessarily lost in reproduction, a drawing is appended showing the structure to be seen on the original negative. This shows the nebula to have a very complex structure, and the question as to whether it is spiral or consists of several annuli with interlacing branches cannot yet be decided. An exceedingly suggestive feature is the existence of two moderately dense wisps of nebulosity, extending from the Nova towards the west, which then curve towards the north and merge into the main convolutions of the nebula. A later circular just received from Kiel contains the important announcements that:—

November 12.—Ritchey states that a photograph obtained at the Yerkes Observatory on November 9 confirms the large motion of the nebula near the Nova.

November 13.—Ritchey finds the nebula surrounding the Nova probably expanding in all directions.

PROPER MOTION OF NOVA PERSEI.—Herr Östen Bergstrand, of Upsala, has computed a preliminary value of the proper motion of Nova Persei from measures obtained from photographs with the astrophotographic refractor at Upsala Observatory. The plates were taken on 1901 March 1, 11, and September 1, 11. The probable yearly proper motion is

$$\begin{aligned} \text{in R.A.} &= \mu = -08.05 \\ \text{,, Decl.} &= \mu' = -0''7. \end{aligned}$$

The deduced mean position of the Nova is given as

$$\begin{aligned} \text{R.A.} &= 3\text{h. } 24\text{m. } 28.16\text{s.} \\ \text{Decl.} &= +43^{\circ} 33' 54'' 0 \end{aligned} \quad \left. \vphantom{\begin{aligned} \text{R.A.} \\ \text{Decl.} \end{aligned}} \right\} \text{(Epoch 1901.4.)}$$

NEW VARIABLE STARS.—91 (1901) *Velorum*. Mr. A. W. Roberts announces the variability of the star having the position

$$\begin{aligned} \text{R.A.} &= \begin{matrix} \text{h.} & \text{m.} & \text{s.} \\ 10 & 16 & 44 \end{matrix} \\ \text{Decl.} &= -41^{\circ} 43' 8'' \end{aligned} \quad \left. \vphantom{\begin{aligned} \text{R.A.} \\ \text{Decl.} \end{aligned}} \right\} (1875). \end{aligned}$$

The changes observed indicate that the star is of the Algol type, with the following elements:—

$$\begin{aligned} \text{Variation in brightness} &= 10.0-10.9 \text{ magnitude.} \\ \text{Period} \dots \dots \dots &= 1\text{d. } 20\text{h. } 30\text{m. } 2\text{s.} \end{aligned}$$

92 (1901) *Coronae Australis*. The same observer also records as variable the star having the following position

$$\begin{aligned} \text{R.A.} &= \begin{matrix} \text{h.} & \text{m.} & \text{s.} \\ 18 & 32 & 45 \end{matrix} \\ \text{Decl.} &= -37^{\circ} 35' 8'' \end{aligned} \quad \left. \vphantom{\begin{aligned} \text{R.A.} \\ \text{Decl.} \end{aligned}} \right\} (1875). \end{aligned}$$

$$\begin{aligned} \text{Variation in brightness} &= 8.0-9.0 \text{ magnitude.} \\ \text{Period} \dots \dots \dots &= \text{about } 185 \text{ days.} \end{aligned}$$